



5-Bit 2:1 Multiplexer

Product Preview

**ELECTRICALLY TESTED PER:
100E558**

The 100E558 contains five 2:1 multiplexers with differential outputs. The output data are controlled by the Select input (SEL).

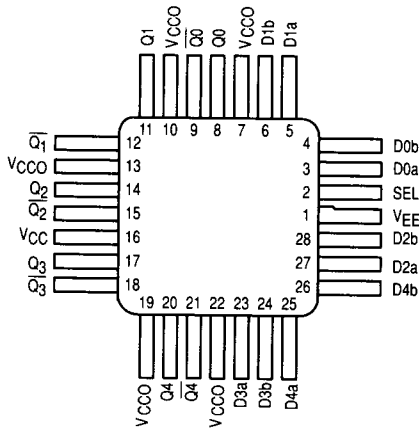
- 600 ps Max. D to Output
- 800 ps Max. SEL to Output
- Differential Outputs
- One V_{CCO} Pin Per Output Pair
- Extended 100E V_{EE} Range of - 4.2 V to - 5.46 V
- 75 kΩ Input Pulldown Resistors

PIN NAME

Pin	Function
D _{0a} - D _{4a}	Inputs Data a
D _{0b} - D _{4b}	Inputs Data b
SEL	Select Input
Q ₀ - Q ₄	True Outputs
$\overline{Q_0}$ - $\overline{Q_4}$	Inverted Outputs

Function Table

SEL	Data
H	a
L	b



Military 100E558

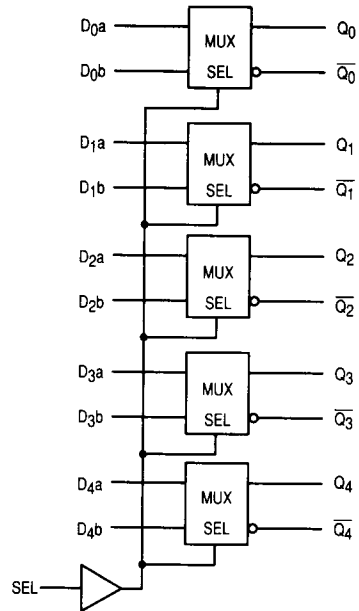


AVAILABLE AS

- 1) JAN: N/A
 - 2) SMD: N/A
 - 3) 883: Planned
- X = CASE OUTLINE AS FOLLOWS:**

**PACKAGE: NON-Compliant
QFP: X**

LOGIC DIAGRAM



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This document contains information on a product under development. Motorola reserves the right to change or discontinue this product without notice.

100E558

100E Series DC CHARACTERISTICS: $V_{EE} = -4.2 \text{ V to } -5.46 \text{ V}$, $V_{CC} = V_{CCO} = \text{GND}$; $-55^\circ\text{C to } +125^\circ\text{C}$

Symbol	Parameter	Min	Max	Units	TEST CONDITION APPLIED:	
V_{OH}	Output HIGH Voltage	-1025	-880	mV	$V_{IN} = V_{IH(max)}$ or $V_{IN} = V_{IL(min)}$	Loading with 50Ω to -2.0 V
V_{OL}	Output LOW Voltage	-1810	-1620	mV		
V_{OHA}	Output HIGH Voltage	-1035		mV	$V_{IN} = V_{IH(min)}$ or $V_{IN} = V_{IL(max)}$	Loading with 50Ω to -2.0 V
V_{OLA}	Output LOW Voltage		-1610	mV		
V_{IH}	Input HIGH Voltage	-1165	-880	mV	Guaranteed HIGH Signal for All Inputs	
V_{IL}	Input LOW Voltage	-1810	-1475	mV	Guaranteed LOW Signal for All Inputs	
I_{IL}	Input LOW Current	0.5		μA	$V_{IN} = V_{IL(min)}$	

DC CHARACTERISTICS: $V_{EE} = V_{EE(min)}$ to $V_{EE(max)}$, $V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	Limits						Units	TEST CONDITION APPLIED:
		+ 25° C		+ 125° C		- 55° C			
		Min	Max	Min	Max	Min	Max		
I_{IH}	Input High Current							μA	
	D		200		200		200		
	SEL		150		150		150		
I_{EE}	Power Supply Current		40		46		40	mA	

AC CHARACTERISTICS: $V_{EE} = V_{EE(min)}$ to $V_{EE(max)}$, $V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	Limits						Units	TEST CONDITION APPLIED:
		+ 25° C		+ 125° C		- 55° C			
		Min	Max	Min	Max	Min	Max		
t_{PLH} t_{PHL}	Propagation Delay to Output							ps	
	D	225	550	225	550	225	550		
	SEL	400	775	400	775	400	775		
t_{Skew}	Within-device Skew	60		60		60		ps	(Note 1)
t_r t_f	Rise/Fall Times 20 - 80%	275	650	275	650	275	650	ps	

1. Within-device skew is defined as identical transitions on similar paths through a device.